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ABSTRACT

A peak power regulator is disclosed that functions within a Code Division Multiple Access (CDMA) transmitter to reduce peak power spikes within baseband signals, controlling

5   the out-of-band emissions, and maintaining the in-band signal quality within an acceptable degradation. In-phase and quadrature baseband signals are input to an envelope magnitude predictor within the peak power regulator. The envelope magnitude predictor outputs an estimate for the

10 magnitude of the envelope that will be generated when the inputted baseband signals are modulated. This estimate is input to a multiplier that generates a ratio by dividing the estimate by a maximum acceptable envelope magnitude. The ratio is subsequently input to a mapping table that outputs a

15 scaling factor sufficient for reducing peak power spikes. The scaling factor is subsequently subtracted from a value of one and multiplied by first delayed versions of the in-phase and quadrature baseband input signals. The outputs from these multiplication operations, after being filtered within

20 lowpass filters to remove out-of-band emissions caused by the operations, are referred to as excess power correction signals. These excess power correction signals are then subtracted from second delayed versions of the in-phase and quadrature baseband input signals to generate in-phase and

25 quadrature baseband output signals.